

IN THE CLAIMS:

Kindly add new claims 38-41 as follows. A detailed listing of all claims is as follows.

Claim 1 (Previously Presented): An organic thin film switching element comprising:

an insulative film;

an organic semiconductor layer made of an organic semiconductor and mounded on the insulative film;

a pair of opposing gate electrodes sandwiching the insulative film and the organic semiconductor layer; and

an intermediate electrode disposed within the organic semiconductor layer.

Claim 2 (Canceled)

Claim 3 (Previously Presented): An organic thin film switching element according to claim 1, wherein the organic semiconductor has a hole transport property.

Claim 4 (Previously Presented): An organic thin film switching element according to claim 1, wherein the organic semiconductor has an electron transport property.

Claim 5 (Previously Presented): An organic thin film switching element according to claim 1, wherein the organic semiconductor has a hole and electron transport property.

Claim 6 (Canceled)

Claim 7 (Previously Presented): An organic thin film switching element according to claim 1, wherein the intermediate electrode is made of a material having a work function to facilitate movements of holes between the electrodes and the organic semiconductor layer.

Claim 8 (Previously Presented): An organic thin film switching element according to claim 7, wherein the intermediate electrode comprises a laminate including a first layer made of a material having a work function substantially equal to that of the organic semiconductor layer, and a second layer made of a material having a work function lower than that of the first layer.

Claim 9 (Previously Presented): An organic thin film switching element according to claim 1, wherein the intermediate electrode is made of a material having a work function to facilitate movements of electrons between the electrodes and the organic semiconductor layer.

Claim 10 (Previously Presented): An organic thin film switching element according to claim 9, wherein the intermediate electrode of the organic thin film switching element comprises a laminate including a first layer made of a material having a work function substantially equal to that of the organic semiconductor layer, and a second layer made of a material having a work function higher than that of the first layer.

Claim 11 (Previously Presented): An organic electroluminescence element display device having a display array formed of a plurality of light emitting sections, comprising:
a substrate having a plurality of first display electrodes formed on a surface in correspondence to the light emitting sections;

an organic material layer formed on each of the first display electrodes and including at least one organic electroluminescence material layer capable of emitting light by injecting electrons or holes thereinto;

a second display electrode formed in common on the organic material layer; and

an organic thin film switching element formed on the substrate and connected to at least one of the first and second display electrodes, the organic thin film switching element including:

a insulative film;

an organic semiconductor layer made of an organic semiconductor and mounded on the insulative film;

a pair of opposing gate electrodes sandwiching the insulative film and the organic semiconductor layer; and

an intermediate electrode disposed within the organic semiconductor layer.

Claim 12 (Previously Presented): An organic electroluminescence element display device according to claim 11, wherein the organic semiconductor layer is formed of a portion of the organic material layer.

Claim 13 (Original): An organic electroluminescence element display device according to claim 11, wherein the light emitting sections are arranged in matrix.

Claim 14 (Original): An organic electroluminescence element display device according to claim 11, further comprising a capacitor formed on the substrate, and connected to at least one of the first and second display electrodes and the organic thin film switching element.

Claim 15 (Original): An organic electroluminescent element display device according to claim 11, wherein the substrate and the first display electrode are transparent.

Claim 16 (Canceled)

Claim 17 (Previously Presented): An organic electroluminescence element display device according to claim 11, wherein the intermediate electrode is made of a material having a work function to facilitate movements of holes between the electrodes and the organic semiconductor layer.

Claim 18 (Previously Presented): An organic electroluminescence element display device according to claim 17, wherein the intermediate electrode of the organic thin film switching element comprises a laminate including a first layer made of a material having a work function substantially equal to that of the organic semiconductor layer, and a second layer made of a material having a work function lower than that of the first layer.

Claim 19 (Previously Presented): An organic electroluminescence element display device according to claim 11, wherein the intermediate electrode is made of a material having a work function to facilitate movements of electrons between the electrodes and the organic semiconductor layer.

Claim 20 (Previously Presented): An organic electroluminescence element display device according to claim 19, wherein the intermediate electrode of the organic thin film switching element comprises a laminate including a first layer made of a material having a work function substantially equal to that of the organic semiconductor layer, and a second layer made of a material having a work function higher than that of the first layer.

Claim 21 (Previously Presented): An organic thin film switching element comprising:
an insulative film;
an organic semiconductor layer made of an organic semiconductor and mounded on the insulative film;
a pair of intermediate electrodes disposed within the organic semiconductor layer so as to confront each other; and
a gate arrangement for applying an electric field to the organic semiconductor layer between the intermediate electrodes.

Claim 22 (Previously Presented): An organic thin film switching element according to claim 21, wherein the organic semiconductor has a hole transport property.

Claim 23 (Previously Presented): An organic thin film switching element according to claim 21, wherein the organic semiconductor has an electron transport property.

Claim 24 (Previously Presented): An organic thin film switching element according to claim 21, wherein the organic semiconductor has a hole and electron transport property.

Claim 25 (Previously Presented): An organic thin film switching element according to claim 21, wherein each of the intermediate electrodes is made of a material having a work function to facilitate movements of holes between the electrodes and the organic semiconductor layer.

Claim 26 (Previously Presented): An organic thin film switching element according to claim 25, wherein each of the intermediate electrodes comprises a laminate including a first layer made of a material having a work function substantially equal to that of the organic semiconductor layer, and a second layer made of a material having a work function lower than that of the first layer.

Claim 27 (Previously Presented): An organic thin film switching element according to claim 21, wherein each of the intermediate electrodes is made of a material having a work function to facilitate movements of electrons between the electrodes and the organic semiconductor layer.

Claim 28 (Previously Presented): An organic thin film switching element according to claim 27, wherein each of the intermediate electrodes comprises a laminate including a first layer made of a material having a work function substantially equal to that of the organic semiconductor layer, and a second layer made of a material having a work function higher than that of the first layer.

Claim 29 (Previously Presented): An organic electroluminescence element display device having a display array formed of a plurality of light emitting sections, comprising:

- a substrate having a plurality of first display electrodes formed on a surface in correspondence to the light emitting sections;
- an organic material layer formed on each of the first display electrodes and including at least one organic electroluminescence material layer capable of emitting light by injecting electrons or holes thereinto;
- a second display electrode formed in common on the organic material layer; and
- an organic thin film switching element formed on the substrate and connected to at least one of the first and second display electrodes, the organic thin film switching element including:
 - an insulative film;
 - an organic semiconductor layer made of an organic semiconductor and mounded on the insulative film;
 - a pair of intermediate electrodes disposed within the organic semiconductor layer so as to confront each other; and
 - a gate arrangement for applying an electric field to the organic semiconductor layer between the intermediate electrodes.

Claim 30 (Previously Presented): An organic electroluminescence element display device according to claim 29, wherein the organic semiconductor layer is formed of a portion of the organic material layer.

Claim 31 (Previously Presented): An organic electroluminescence element display device according to claim 29, wherein the light emitting sections are arranged in matrix.

Claim 32 (Previously Presented): An organic electroluminescence element display device according to claim 29, further comprising a capacitor formed on the substrate, and connected to at least one of the first and second display electrodes and the organic thin film switching element.

Claim 33 (Previously Presented): An organic electroluminescence element display device according to claim 29, wherein the substrate and the first display electrode are transparent.

Claim 34 (Previously Presented): An organic electroluminescence element display device according to claim 29, wherein each of the intermediate electrodes is made of a material having a work function to facilitate movements of holes between the electrodes and the organic semiconductor layer.

Claim 35 (Previously Presented): An organic electroluminescence element display device according to claim 34, wherein each of the intermediate electrodes comprises a laminate including a first layer made of a material having a work function substantially equal to that of the organic semiconductor layer, and a second layer made of a material having a work function lower than that of the first layer.

Claim 36 (Previously Presented): An organic electroluminescence element display device according to claim 29, wherein each of the intermediate electrodes is made of a material having a work function to facilitate movements of electrons between the electrodes and the organic semiconductor layer.

Claim 37 (Previously Presented): An organic electroluminescence element display device according to claim 36, wherein each of the intermediate electrodes comprises a laminate including a first layer made of a material having a work function substantially equal to that of the organic semiconductor layer, and a second layer made of a material having a work function higher than that of the first layer.

Claim 38 (New): An organic thin film switching element according to claim 1, wherein the pair of opposing gate electrodes include first and second gate electrodes, such that the first gate electrode covers the second gate electrode and the intermediate electrode, and the first and second gate electrodes cooperate with each other to apply an electric field to the intermediate electrode.

Claim 39 (New): An organic electroluminescence element display device according to claim 11, wherein the pair of opposing gate electrodes include first and second gate electrodes, such that the first gate electrode covers the second gate electrode and the intermediate electrode, and the first and second gate electrodes cooperate with each other to apply an electric field to the intermediate electrode.

Claim 40 (New): An organic thin film switching element according to claim 21, wherein the gate arrangement includes first and second gate electrodes, such that the first gate electrode covers the second gate electrode and the pair of intermediate electrodes, and the first and second gate electrodes cooperate with each other to apply the electric field.

Claim 41 (New): An organic electroluminescent element display device according to claim 29, wherein the gate arrangement includes first and second gate electrodes, such that the first gate electrode covers the second gate electrode and the pair of intermediate electrodes, and the first and second gate electrodes cooperate with each other to apply the electric field.